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LETTER DATED 16 MAY 1995 FROM THE PERMANENT REPRESENTATIVE OF IRAQ TO THE UNITED NATIONS ADDRESSED TO THE SECRETARY-GENERAL

On instructions from my Government, I have the honour to transmit to you herewith a letter dated 15 May 1995 from Mr. Hamid Yusuf Hammadi, Acting Minister for Foreign Affairs of the Republic of Iraq, on the use by the Coalition forces in their aggression against Iraq of projectiles made from depleted uranium and on the serious consequences there have thus been for health and the environment.

I should be grateful if you would have this letter and its annex circulated as a document of the Security Council.

(Signed) Nizar HAMDOON
Ambassador
Permanent Representative

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Annex

Letter dated 15 May 1995 from the Acting Minister for Foreign Affairs of Iraq addressed to the Secretary-General

There is an important matter I should like to place before you, and it is that of the use by the Coalition forces in the theatre of operations against Iraq of radiation weapons, in particular of projectiles made from depleted uranium (DU). This has caused the most serious harm to people and to the environment in Iraq.

In his letter No. DS/S/SS 0692/94M of 6 December 1994 addressed to Sir David Steel, the British Minister of Defence, Malcolm Rifkind admits that DU was used by British forces in order to improve their ability to counter Iraqi armour. In the same letter, the Minister of Defence states that, in their tanks and A-10 aircraft, United States forces used far greater quantities of DU than did British forces. In this letter, the British Minister of Defence admits that, when they impact with a hard surface, DU projectiles can emit small amounts of radioactive and toxic substances that present a health hazard if inhaled or ingested into the digestive system but states that it is not possible for persons other than those targeted by such projectiles to become exposed to large enough quantities of such substances to place their health at risk. In this letter, the British Minister of Defence claims that these projectiles were used in desert areas that were sparsely inhabited. The direct and immediate danger from the dust produced by the projectiles dissipates quickly, although the hazards caused by contact with destroyed vehicles remain. The hazards that remain in both Iraq and Kuwait are to be regarded as limited, or such is the claim made by the British Minister of Defence in this letter.

I should further like to take this opportunity to call your attention to an article published in the newspaper Le Monde diplomatique in its issue for 10 April 1995. The newspaper reports that William M. Arkin, head of the Institute for Science and International Security in Washington, estimates that some 940,000 rounds of 30-millimetre ammunition, each containing 300 grams of DU, were fired by A-10 aircraft and that 4,000 120-millimetre shells, each containing 1 kilogram of DU, were fired by tanks. This makes it possible to estimate the total weight of the uranium left in Iraq and Kuwait at about 300 tons. The newspaper also draws on the confidential report submitted by the United Kingdom Atomic Energy Authority (UKAEA) to the Government in November 1991, which states that there are some places where enough rounds were fired so that the contamination of vehicles and of the ground exceeded permissible limits and presented a hazard to the local population. This report also states that the greatest danger derives from the uranium dust produced when the projectiles hit and set fire to vehicles and when the particles of dust are inhaled. A large part of the metal mass is transformed on impact into an aerosol whose fine particles, readily carried by the wind, are easily ingested, are toxic to the kidneys and radiologically dangerous to the lungs. This newspaper article further states that a programme broadcast by the NBC television network in February 1994 presented two cases of probable DU contamination. The first was that of Sergeant Daryl Clark, who recounted how

his platoon was close to a group of Iraqi tanks when they were destroyed by A-10 aircraft using 130-millimetre shells. His daughter, who was born after the war, was born with angiomas and without a thyroid gland. The second case was that of a nurse, Carol Picou, whose medical unit was engulfed in smoke issuing from Iraqi tanks. Her attending physician, Dr. Thomas Calendar, indicates that her condition greatly resembles that of a person who has ingested radioactive substances. The newspaper reports that the United States Army admits that DU can present a hazard, and that it has had difficulty in concealing the fact that vehicles hit by friendly fire had been brought back to United States territory for decontamination and that 35 soldiers had then been exposed to radiation.

To supplement the facts indicated above, I should like to refer to a study carried out in March 1993 by three American experts, Grace Bekdoksky, Dimacio A. Lopez and Fielding Mcgihy, on the use of DU by the United States Department of Defense in the 30-Power aggression against Iraq. The experts represent the following American organizations: Rural Alliance for Military Accountability; Progressive Alliance for Community Empowerment; and Citizen Alert. The study confirms that DU was used for the first time in the history of contemporary warfare in the Gulf War and that countless numbers of Iraqi soldiers were killed either directly by DU projectiles or as a result of exposure to radiation. It states that it is possible that 50,000 Iraqi children died in the first eight months of 1991 as a result of various diseases including cancer, kidney failure and previously unknown internal diseases caused by the use of DU. In this connection, the study reports, on the authority of the United States Department of Defense, that an undetermined number of American soldiers received direct wounds from DU-contaminated shrapnel and were burnt and that others may have died as a result of inhaling uranium after their tanks were set on fire. In this context, the study reports that the fragmentation of DU particles produces gamma rays that give rise to a period of exposure to radiation. The study indicates that the lack of interest by Governments, particularly that of the United States, in investigating and publicizing the effects and hazards of the use of DU, is due to an attempt on their part to avoid paying compensation to victims of exposure to radiation. The use of this type of uranium gives rise to a series of health hazards and incurable diseases that include cancer, kidney failure, pneumal malfunction, hereditary impairment, skin diseases, and obscure idiopathic diseases that cannot be treated and are fatal. Once uranium oxide enters the lungs it remains there for long periods of time, causing a one-half reduction in pneumal functioning and, within a year or so, leading to total paralysis of the lungs. The retention of particles of uranium oxide in the lung tissue means that they increase constantly as long as the victim remains alive. With the passage of time, lung cancer becomes certain or at least highly probable. The study indicates that the cargo of contaminating rounds in a single tank amounts to 50,000 pounds of uranium and that the quantities of munitions used by the tanks and aircraft of the United States and its Coalition partners were so great that the hazards they presented and the damage they caused were not restricted to the field of battle alone but also affected areas far away. The greatest amount of uranium waste is inside Iraqi territory. The study adds that the quantities of DU used by United States and British aircraft and tanks in combat against Iraq have not been announced and have remained "classified information". The study confirms that the UKAEA report indicates that the real danger stems from the uranium dust produced by the impact of DU projectiles and by their combustion inside Iraqi vehicles and

tanks. This generates an enormous number of very small particles of uranium oxide that are carried by the wind over long distances, enter the respiratory system and cause lung cancer. The study mentions a cable from the Munitions and Chemical Command addressed to a field commander in the war, a Colonel Lindsey, bringing it to his attention that any system containing DU that is fired is to be regarded as contaminated, that any system attacked with DU is to be regarded as contaminated, that personnel may only enter contaminated systems after it is ascertained that they are free of contamination, and that personnel must wear protective gloves when handling objects suspected of DU contamination.

Expert Iraqi teams formed for the purpose have carried out a technical study that includes measurements of radioactivity in the areas of military operations and in the armour and vehicles destroyed (including those damaged and towed to repair stations), and they have taken soil samples in order to measure the degree of contamination. The convincing material evidence obtained by these teams proves that the Coalition States used radiation weapons against our armed forces, and particularly against our armour and vehicles. Spectroscopic analysis of environmental samples taken inside tanks that were destroyed and other environmental samples taken in the Rumaylah North and Artawi areas, the border areas and the demilitarized zone prove that radioactive contamination results from the use of DU shells, and some of the samples taken inside armour destroyed at the locations in question have a high level of radioactivity. Laboratory measurements of environmental samples from the areas studied have also shown the presence of very high concentrations of uranium 234. The measurement schedules annexed hereto show the results of the expert study for selected areas in Basra Governorate.

The Iraqi authorities concerned also formed expert teams from medical and scientific research establishments in order to conduct field studies and clinical studies to determine the effects on human health of the use of radiation weapons by the Coalition forces in the war against Iraq.

Baffling pathological cases have appeared in Iraq, and they are exemplified by an abnormal increase in leukaemia, lung cancer, cancer of the digestive system and carcinoma. There has been an appreciable increase in congenital diseases and congenital deformities in foetuses, such as the presence of abnormal superfluous organs, and in live births with hydrocephaly or anencephaly, with eye defects and even anophthalmia or malformation of the eye. There have also been cases of conjoined twins, skeletal abnormalities, hereditary syndromes, chromosomal trisomies and unexplained cases of hair loss and puzzling skin diseases in persons affected by the bombardment or in areas close by. Increasing numbers of people are affected by attacks of epidemic vertigo accompanied by loss of consciousness and loss of balance, a growing number of patients complain of episodes of distorted vision and loss of sight in part of the eye accompanied by severe headache, and there are unexplained conditions of infertility in both sexes. There have been increases in miscarriages, stillbirths, premature births and difficult births.

The wide-scale use of the weapons in question has no military justification and conflicts with the claims of the Coalition countries that the weapons employed in the war were of a conventional type and that it was a clean war. I can only say in this connection that the use of these weapons resulted in the

mass murder of individuals, firstly because of the destructive nature of high-power munitions and secondly because of the contamination and affliction with baffling and unprecedented medical symptoms of persons outside the theatre of military operations by the toxic radioactive substance used. There has also been wide-scale environmental contamination that is not restricted to the areas that came under bombardment. It has affected water, soil and air, and has an adverse short- and long-term impact on human and animal health.

In our view, the States that made use of these weapons bear international legal and humanitarian responsibility for their serious consequences for human health and the environment in Iraq and for the human suffering that will be endured not only by the present generation but by future generations too. Iraq reserves the right to confront these States with the consequences of the internationally prohibited act of which they are guilty.

I should be grateful if you would have this letter circulated as a document of the Security Council.

(Signed) Hamid Yusuf HAMMADI
Acting Minister for Foreign Affairs
of the Republic of Iraq

Enclosure

Schedules showing radiation levels

1. Field measurements of exposure levels in the area of Rumaylah North

No.	Target	Level of exposure to radiation (microroentgen/hour)	
		Normal radiation exposure level	Radiation exposure level of target
1.	BMP-1 personnel carrier	8.1	24.6
2.	MTLB personnel carrier	8.2	9.7
3.	T-72 tank	8.7	15.1
4.	Recovery tank	7.3	13.2

2. Field measurements of exposure levels in the Shamiyah airfield and Kadirat al-Uzaymi areas

No.	Target	Level of exposure to radiation (microroentgen/hour)	
		Normal radiation exposure level	Radiation exposure level of target
1.	T-72 tank	7.0	60.8
2.	personnel carrier	7.2	60.3
3.	Location away from the T-72 (background radiation)	7.1	7.3
4.	Location away from the personnel carrier	7.3	7.2

3. Field measurements of exposure levels in the demilitarized zone and nearby

No.	Target	Level of exposure to radiation (microroentgen/hour)	
		Normal radiation exposure level	Radiation exposure level of target
1.	Border pumping station of the IPSA pipeline at Kharanij (head of DU round)	7.4	83
2.	T-55 tank between crossings 13 and 14	7.6	21
3.	T-72 tank No. 16107	7.2	23
4.	T-55 tank to the left of crossing 9 (closed)	7.4	67
5.	T-72 tank near the UNIKOM post between crossings 12 and 13	7.6	69
6.	T-72 tank to the south-east of Jabal Sanam near the warning and control unit	7	65

4. Laboratory measurements showing radioactivity of samples from destroyed targets in the Rumaythah North area

No.	Target	Radioactivity (becquerel/gram)	
		Concentration of the thorium 234 isotope	Concentration of the radium 226 isotope
1.	BMP-1 armoured personnel carrier Inside front Outside rear Inside rear Soil sample taken far from target	 130 ± 2543 12 ± 242 68 ± 6706 Below sensitivity threshold of device	 70 ± 1286 18 ± 153 26 ± 1780 19 ± 43
2.	MTLB personnel carrier (front)	8 ± 105	13 ± 76
3.	T-72 tank Outside front Soil from outside front Inside Inside	 116 ± 2837 25 ± 3011 195 ± 6031 29 ± 540	 9 ± 136 39 ± 542 32 ± 604 18 ± 189
4.	Background radiation	9 ± 178	12 ± 148
5.	Recovery tank Outside Inside	 11 ± 173 30 ± 657	 17 ± 104 14 ± 205

5. Laboratory measurements showing radioactivity of samples from the Shamiyah airfield and Kadirat al-Uzaymi areas

No.	Target	Radioactivity (becquerel/gram)		
		Concentration of the thorium 234 isotope	Concentration of the radium 226 isotope	Concentration of the uranium 235 isotope
1.	Destroyed T-72 tank; surface	21940 ± 538610	817 ± 17349	156 ± 9231
2.	WATRKAN armoured personnel carrier	42 ± 1970	25 ± 282	10 ± 44
3.	Soil sample taken far from tank (background radiation)	Less than 60	10 ± 67	Below sensitivity threshold of device
4.	Soil sample taken far from APC	14 ± 60	14 ± 58	Below sensitivity threshold of device

6. Laboratory measurements showing radioactivity of samples from destroyed targets in the demilitarized zone and nearby

No.	Target	Radioactivity (becquerel/gram)		
		Concentration of the thorium 234 isotope	Concentration of the radium 226 isotope	Concentration of the uranium 235 isotope
1.	Border pumping station of the IPSA pipeline at Kharaij (head of DU round)	1700 ± 338011	890 ± 72863	207 ± 4807
2.	T-55 tank between crossings 13 and 14	238 ± 6316	158 ± 2784	77
3.	T-72 tank No. 16107	9624	175 ± 3432	30 ± 99
4.	T-55 tank to the left of crossing 9 (closed)	866 ± 83514	311 ± 10811	118 ± 1556
5.	T-72 tank near the UNIKOM post between crossings 12 and 13	938 ± 97883	277 ± 8540	2393
6.	T-72 tank at the foot of Jabal Sanam	793 ± 70042	251 ± 7018	109 ± 1343

7. Radioactivity of uranium isotope 235 and thorium isotope 234 in samples from specific areas

No.	Area	Target	Ratio of uranium 235 to thorium 234
1.	Rumaylah North	(a) BMP-1 personnel carrier (b) MTLB personnel carrier (c) T-72 tank (d) Recovery tank	0.016 - 0.022 0.02
2.	Shamiyah airfield area	(a) T-72 tank (b) WTRKAN personnel carrier	0.017 0.025
3.	Demilitarized zone and contiguous areas	(a) Border pumping station of the IPSA pipeline at Kharaij (head of DU round) (b) T-55 tank between crossings 13 and 14 (c) T-72 tank (d) T-55 tank to the left of crossing 9 (closed) (e) T-72 tank near the UNIKOM post between crossings 12 and 13 (f) T-72 tank at the foot of Jabal Sanam	0.014 0.012 0.01 0.02 0.024 0.02
4.	Reference uranium source		0.518

8. Nature of the areas in which samples were taken

Area	Boundaries	Date		Strategy for selection	Target selected	Coordinates of target	
		From	To			East	North
Rumaylah North	From coordinates 3479 (Nukhaylah) to coordinates 2299 (bridge 44)	27/8	30/8	The area was the axis of the withdrawal of the 10th Armoured Brigade, Republican Guard, two days after the cease-fire. (The brigade was subjected to enemy bombardment while withdrawing to the north during this time.)	1. BMP-1 Personnel carrier 2. MTLB personnel carrier 3. T-72 tank 4. Recovery tank	21195 21505 22015 22934	89564 88802 88060 86883
Shamiyah airfield area and the Kadirat al-Uzaymi area	From coordinates 1772 (Shamiyah intersection) to coordinates 0052 (Uzaymi)	11/9	13/9	The area was the sector of operations of the Adnan/Republican Guard Forces Command and vehicles of the 21st Brigade, Republican Guard.	1. T-72 tank 2. WTRKAN armoured personnel carrier	00519 01092	04162 03339
Demilitarized zone and adjacent areas	From coordinates 4840 (Kharanij area) to Umm Qasr, inclusive, at coordinates 8426 (Umm Qasr port), including Rumaylah South, Barjisiyah, Zubayr, Safwan, Jabal Sanam and the Arabian Gulf base	18/9	25/9	The central and western parts of the area were the sector of operations of the Tawakkalna ala Allah and Al-Madina al-Munawwarah/Republican Guard Forces Command and the northern part lay along the strategic line and axis of withdrawal of the II, III IV and VI Army Corps, particularly the Umm Qasr-Basra and Safwan-Basra roads.	1. Border pumping station of the IPSA pipeline at Kharanij (head of DU round) 2. T-55 tank between crossings 13 and 14 3. T-72 tank No. 16107 4. T-55 tank to the left of crossing 9 (closed) 5. T-72 tank near the UNIKOM post between crossings 12 and 13 6. T-72 tank to the south-east of Jabal Sanam near the warning and control unit	549 825 896	515 957 968

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9. Results of the measurement and analysis of samples from specific areas

Area	Target	Field measurements		Factor increase	Laboratory measurements			Normal level[6]
		Exposure to natural radiation (microroentgen/hour)[1]	Exposure to extraneous radiation (microroentgen/hour)[2]		Concentration of thorium 234 isotope (becquerel/gram)[3]	Concentration of uranium 235 isotope (becquerel/gram)[4]	Ratio of uranium 235 to thorium 234[5]	
Rumaylah North	1. BMP-1 personnel carrier	8.1	24.6	3	25450	407	0.016	0.518
	2. MTLB personnel carrier	8.2	9.7	-	-	-	-	0.518
	3. T-72 tank	8.7	15.1	2	6031	132	0.022	0.518
	4. Recovery tank	7.2	13.2	2	657	13	0.020	0.518
Shamiyah airfield and Kadirat al-Umymi	1. T-72 tank	7	60.8	8.6	538610	9231	0.017	0.518
	2. WTRKAN personnel carrier	7.2	60.3	8.7	1970	44	0.023	0.518
Demilitarized zone and adjacent areas	1. Border pumping station of the IPSA pipeline at Khamsij (head of DU road)	7.4	83	11.2	538011	4807	0.014	0.518
	2. T-55 tank between crossings 15 and 14	7.6	21	2.7	6316	77	0.012	0.518
	3. T-72 tank No. 16107	7.2	23	3	9624	99	0.010	0.518
	4. T-55 tank to the left of crossing 9 (closed)	7.4	67	9	83514	1556	0.020	0.518
	5. T-72 tank near the UNIKOM post between crossings 12 and 13	7.6	69	9	97883	2393	0.024	0.518
	6. T-72 tank to the south-east of Jabal Sanam near the warning and control unit	7	65	9	70042	1343	0.02	0.518

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1. Levels of exposure to natural radiation, measured in units of one millionth of a roentgen. (The roentgen is a unit of measure of extraneous exposure to gamma rays and X-rays.)

2. Levels of exposure in the areas of the samples selected.

3 and 4. The concentration of the isotopes thorium 234 and uranium 235 in the samples taken. (It was not possible to detect their concentration in the normal soil samples.) It is measured in becquerel, the unit of measure of radioactivity and equal to the activity of a radionuclide having one spontaneous nuclear transition per second.

5. The ratio of the concentration of uranium 235 to thorium 234 (a measure of the degree of depletion of uranium).

6. The normal ratio of uranium 235 to thorium 234 to the reference source of uranium.